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CLAIMS

1. (Currently Amended) A switching device for switching between two states ~~such as 1 or 0~~ in computing or on off states[[]].
Wherein the switched state depends on the particle wave function size in space and wherein the wave function size depends on the particle total energy and the switching between the device two states is done by changing the particle total energy.
2. (Original) A switching device as in claim 1 wherein one of the states is indicated by a certain particle wave function size and the other state is indicated by a bigger particle wave function size.
3. (Currently Amended) A switching device as in claim 2 wherein the wave function size ~~if~~ is referred to the uncertainty distribution in space of the particle wave function.
4. (Cancelled)
5. (Cancelled)
6. (Currently Amended) A switching device as in claim 1 wherein the wave function size depends on the particle kinetic energy and the ~~The~~ switching between the device two states is done by changing the particle kinetic energy.
7. (Original) A switching device as in claim 1 wherein the switching between the device two states is done by changing the particle potential energy.
8. (Currently Amended) A switching device as in claim 1 wherein the switching between the two states is achieved by transmitting energy to or from an additional particle and the particle ~~represented~~ representing the device switching state.
9. (Cancelled)

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10. (Currently amended) A switching device as in claim 1 wherein the switching between the two states is achieved by photon or ~~absorption~~ absorption or emission by the switched particle.

11. (Cancelled)

12. (Cancelled)

13. (Original) A switching device as in claim 1 wherein the switching between the two states is achieved by phonon or phonons energy exchange with the switched particle.

14. (Currently amended) A switching device as in claim 1 wherein the switching between the two sizes of the particle wave function is achieved by a potential energy interaction.

15. (Cancelled)

16. (Currently Amended) A switching device as in claim 1 comprising two boundaries ~~in~~ on two sides of the switching particle ~~in the second state~~ [[.]] ~~Wherein the two switching states is~~ are detected by the corresponding values of the potential between the two boundaries.

17. (Cancelled)

18. (Cancelled)

19. (Currently Amended) A switching device as in claim 1 ~~[[.]]~~ Wherein the two switching particle states is are detected by photon detection.

20. (Currently Amended) A switching device as in claim 19 wherein the photon detection is based on photon scattering , photon absorption ~~absorption~~ or photon transmission.

21. (Currently Amended) A switching device ~~for switching between two states~~
~~such as 1 or 0 in computing or on off states. Wherein the switched~~
~~state depends on the particle wave function dynamic size change in~~

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~~space. W~~ according to claim 1 wherein the dynamics change in state is detected by a
corresponding to a charge current.

22. (Cancelled)

23. (Cancelled)

24. (Currently amended) A switching device as in claim 1-23 wherein the term particle refers to
one or more than one electrons neutrons or protons. ~~That have a referred function as the~~
~~referred particle in claim 1-23.~~

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. {Formerly claim 23a} (Currently amended) A switching device as in claim 1[[.]]
~~emprizing~~ comprising two regions which create a repulsive potential on a particle between
them[[.]] wherein ~~T~~the particle size is ~~depends~~ dependent on the repulsive potential value, such
that by reducing the repulsive potential value the particle wave function size expands, thus
achieving two states denoted by the particle wave function sizes[[.]] and ~~To~~ to revert to the initial
state the repulsive potential is reverted to its initial value.

29. {Formerly claim 23b} (Cancelled)

30. (New) A switching device as in claim 1 wherein the change in sate is detected by a
corresponding change in voltage on an electrode.

31. (New) A device comprising:

a container in which at least one particle is contained, wherein the particle in a first
lower energy state is confined to a given region and wherein, in a second higher energy state,

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the particle is increased in size such that a portion of the at least one particle is outside the given region, while remaining in the container; and

at least one electrode adapted to detect the presence of the portion of the at least one particle outside the region or of the transition of the at least one particle from the first to the second state.

32. (New) A device according to claim 31 wherein the at least one electrode is positioned such that a detectable current is caused to flow in an electrode when the energy state changes.

33. (New) A device according to claim 31 wherein the at least one electrode is positioned such that a detectable voltage change is induced on an electrode when said state changes.

34. (New) A device according to claim 31 wherein the given region is bounded by a second region into which the particle expands in said second state.

35. (New) A device according to claim 34 wherein the second region comprises a second container, such that in the second state the particle fills the second region.

36. (New) A device according to claim 31 wherein the particle is an electron.

37. (New) A method of switching comprising:

providing at least one particle having a wave function bound to a region;

switching the at least one particle from a first lower energy state in which the wave function of at least one particle has a first, small extent to a second higher energy state in which the wave function of the at least one particle has a second larger extent, while remaining bound to the region; and

determining the state of the at least one particle or the transition of the at least one particle from one of said states to the other.

38. (New) A method according to claim 37 wherein the determination of the state includes detection of a voltage induced by the expansion of the wave function of the at least one particle.

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39. (New) A method according to claim 37 wherein the determination of the state includes detection of a current induced by expansion of the wave function of the at least one particle.

40. (New) A method according to claim 37 wherein said switching is effected by a change in one or both of the potential or kinetic energy of the particle.

41. (New) A method according to claim 37 wherein said switching is effected by an energy exchange with another particle or a phonon or by absorption or emission of a photon.